

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEXAS INSTRUMENTS INC.,

Petitioner,

v.

PARKERVISION, INC.

Patent Owner

U.S. Patent No. 7,496,342

Inter Partes Review No. IPR2024-00934

PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW

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I. INTRODUCTION

The Board repeatedly abuse its discretion and made numerous legal and factual errors in this IPR. Patent Owner ParkerVision (“PO”) respectfully requests the Director vacate the Final Written Decision (Paper 54, “FWD”), and termination of this proceeding.

U.S. Patent No. 7,496,342 (“’342 patent”) relates to innovative wireless chip technology that was a paradigm shift in how the industry processed wireless signals. Because of this, Petitioner filled critical gaps in the prior art with expert testimony to shoehorn the prior art into the claims. The Board then improperly determined that the challenged claims are obvious based *solely* on expert testimony that is facially unreliable and riddled with hindsight.

Each challenged claim requires specific percentage ranges of energy discharged from a circuit component. The asserted prior art references—DeMaw and Macnally—do not disclose any discharge percentages *whatsoever* and are completely *silent* on this claim element. This is not disputed.

To fill this glaring omission, Petitioner tried to back into the claimed percentages under an implicit guise of *inherency*—relying *solely* on doctored circuit simulations from its expert, Dr. Galton. *See, e.g.*, Pet., 16-18, 50-54. Critically, in conducting his simulations, Dr. Galton *ignored* the circuit parameters

specifically disclosed in the prior art and *made-up* component values. By manipulating parameters and values, Dr. Galton created simulations for circuits that bear no resemblance to what was actually disclosed in the prior art. An expert cannot just pick and choose parameters and values inconsistent from the prior art until achieving a desired result. This is textbook hindsight and the IPR should have never been instituted in the first place.

As was the case in *Interactive Commc'ns Int'l v. Blackhawk Network Inc.*, IPR2024-00467, Paper 40 (P.T.A.B. Oct. 9, 2025), it was an abuse of discretion for the Board to rely on an expert who is not credible. Indeed, Dr. Galton's manipulation of parameters/values that deviated from the prior art's disclosure was confirmed in his deposition. This should have been fatal to showing unpatentability under *inherency* where the claim element must be "necessarily present" in, or "the natural results" of, the prior art's disclosure. *PAR Pharms. v. TWI Pharms.*, 773 F.3d 1186, 1194-95 (Fed. Cir. 2014). Yet, the Board was not deterred.

To the contrary, over PO's objections, the Board allowed Dr. Galton to submit a *new* set of simulations to try to correct his errors, effectively granting a *do-over*. Notably, Dr. Galton took full advantage of this and submitted new simulations and an accompanying declaration spanning **169 pages** and including **over 20 new simulations/plots**—far longer than his original declaration. The new

submissions presented theories and results that were *materially* different from those set forth in the Petition. The Board should have rejected (not condoned) this blatant attempt at a do-over, and again abused its discretion when it failed to do so.

This all culminated in the FWD, where the Board erroneously relied on both Dr. Galton's original and new simulations to find the challenged claims unpatentable. His simulations, which were achieved through manipulation and fueled by hindsight, do not remotely meet the requirements to show inherency. The FWD further compounded the Board's errors and abuses of discretion by improperly *shifting the burden* to PO to show the claims are patentable. Similar to *Interactive Communications*, Director Review should be granted, the Board's FWD should be vacated, and this proceeding should be terminated.

II. ARGUMENTS

A. The Board's abuses of discretion started at institution.

The claims recite specific discharge percentages. The prior art does not disclose any percentages *at all*. The Board abused its discretion by relying *solely* on Dr. Galton's manipulated simulations to demonstrate inherency.

A petition for IPR may request to cancel claims *only* "on the basis of prior art consisting of patents or printed publications." 35 U.S.C. § 311(b). The petition "must specify where each element of the claim is found in the prior art patents or printed publications relied upon." 37 C.F.R. § 42.104(b)(4).

Here, the challenged claims require that a capacitor (a circuit component that stores charge) discharge specified percentages “of the total charge stored therein during a period of time that [a] switching device is open.” Ex. 1001, claims 19-21. It is undisputed that the asserted prior art references—DeMaw and Macnally—do *not* disclose any discharge percentages. So, the Petition, in violation of the statutory and regulatory requirements, relies *solely* on simulations performed by Dr. Galton to demonstrate these missing elements. This IPR should have never been instituted. Thus, the FWD, which rests solely on Dr. Galton's simulations, should be vacated on this basis alone and the proceeding terminated.

B. The Board abused its discretion by relying solely on an expert who is not credible.

In the Petition, Petitioner relied on Dr. Galton's simulations to show the claimed percentages through an implicit theory of inherency. Pet., 16-18, 53-54. But Dr. Galton *manipulated* the simulations to back into the claimed percentages. The Board was aware of this and erred/abused its discretion by relying on these flawed simulations. *See Interactive*, (reversing FWD and terminating IPR because the Board abused its discretion by crediting unreliable expert testimony).

To establish its inherency theory, Petitioner must show that the missing claim element is “necessarily present” in, or “the natural results” of, the prior art's disclosure. *See, e.g., PAR*, 773 F.3d at 1194-95. Petitioner cannot meet this burden

with expert experimental data that deviate from the prior art's disclosure. That is exactly what Petitioner did here, and the Board allowed it.

In the POR, PO showed how Dr. Galton *ignored* circuit parameters *specifically* disclosed in the prior art and *made-up* component values to back into the percentages that he needed to show—pure hindsight. The differences between the prior art disclosures and Dr. Galton's simulations are shown below.

DeMaw Simulations (POR, 40-45):

DeMaw's Disclosure	Dr. Galton's Simulation Parameters
<u>Siliconix U430</u> JFET	<u>Generic (ideal)</u> JFETs from LTspice
<u>Sinusoidal</u> LO signal	<u>Square wave</u> LO signal
Bias voltage at <u>80% pinch-off voltage</u>	Bias voltage <u>close to pinch-off voltage</u>
Operating frequencies up to <u>150 MHz</u>	Operating frequencies at <u>3-30 MHz</u>

Macnally Simulations (POR, 67-70):

Macnally's Disclosure	Dr. Galton's Simulation Parameters
<u>Unspecified</u> LO clock signal	<u>Full-swing</u> LO clock signal
<u>AM</u> modulation	<u>BFSK</u> modulation
<u>No</u> biasing network present	<u>Inserted</u> biasing network into circuit
<u>Active load transistors</u>	<u>LTspice default devices</u>
Transistor gate length of <u>600nm</u>	Transistor gate length of <u>300nm</u>
Op-Amp with <u>60 dB gain</u>	Op-Amp with <u>undefined parameters</u>
Parasitic capacitances	Parasitic capacitances <u>omitted</u>

Indeed, during deposition, Dr. Galton admitted that his original simulations

deviated from the prior art disclosure. Ex. 2036, 42:20-49:1, 72:17-76:4.

The Petition's unpatentability theory is based *solely* on Dr. Galton's facially unreliable simulations. Because Dr. Galton clearly manipulated his simulations, those simulations cannot, and do not, support a finding that the claimed discharge percentages are "necessarily present" in, or "the natural results" of, the prior art's disclosure. The FWD's finding (FWD, 38, 72) "[t]here is nothing inherently unreliable or suspect" about using flawed simulations as evidence is an abuse of discretion and reversible error.

C. The Board abused its discretion by allowing a do-over and relying on expert testimony that was clearly not credible.

The Board continued to abuse its discretion by allowing Dr. Galton to submit (and then considering) *new* simulations that *materially* changed the Petition's obviousness theory. The Board permitting a *post-institution do-over* is yet another abuse of discretion.

1. The Board improperly admitted new simulations that materially differed from those relied upon in the Petition.

Over PO's objections, Petitioner submitted—and the Board allowed—a *new* set of simulations and an accompanying declaration spanning **169 pages** and including **over 20 new simulations/plots**. Ex. 1042. These simulations presented *new* theories that are *materially* different from those in the Petition. *See* Pet., 14-77 (relying extensively on the *first* set of simulations to purportedly show the

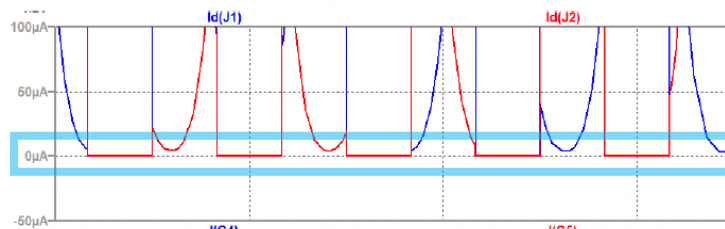
challenged claims are unpatentable); Reply, 12-22, 35-40 (relying on the *second* set of simulations to purportedly show the claimed discharge percentages). As PO pointed out (Sur-reply, 1-5), the second set of simulations improperly presented a new theory of unpatentability and should never have been admitted.

The changes in the new simulations were so material that Dr. Galton, in Petitioner's Reply, had to *change* his theory for DeMaw and completely rework his Macnally analysis. He is simply not credible.

2. Dr. Galton materially changed his DeMaw theory on Reply.

The claimed discharge percentages must occur when switches are open (i.e., when switches are turned off). In the Petition, Dr. Galton *unequivocally* stated that open/off means *completely* off—zero current passing through the switch—and closed/on means *some* current can pass through the switch. But Dr. Galton's new simulations show that the switches in the prior art are never open/off under his original theory. Not to be deterred, he materially changed theories.

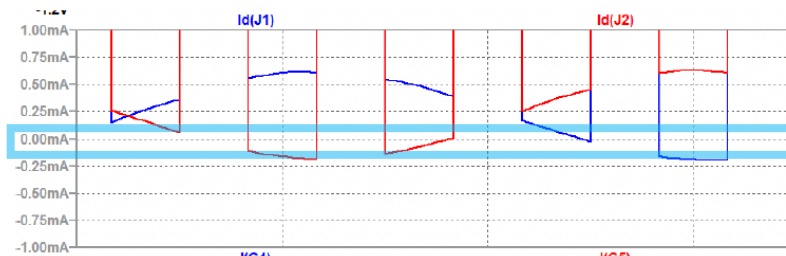
Specifically, Dr. Galton's original DeMaw simulations showed discrete periods of zero current—switch is open/off (red lines at 0 uA, blue box).



Ex. 2021, ¶¶283-84; POR, 50-52.

In view of this result, for the Petition, Dr. Galton took the *unambiguous* position that “[t]he switches are *off* when their *drain currents are zero* and *on* when their *drain currents are non-zero*.” Ex. 1003, ¶103; Ex. 2036, 27:18-28:4 (Galton testifying that “open means ... it doesn’t conduct. Closed means conduct.”). He performed his calculation of discharge percentage based on this.

Then, as shown below, his *new* simulations showed something completely different. There was current passing through the switches at all times. The switches in DeMaw are *never* open/off (no discrete periods of zero current) under Dr. Galton’s original view. Thus, under his original theory, he could not get to the claimed percentages with the new simulations.



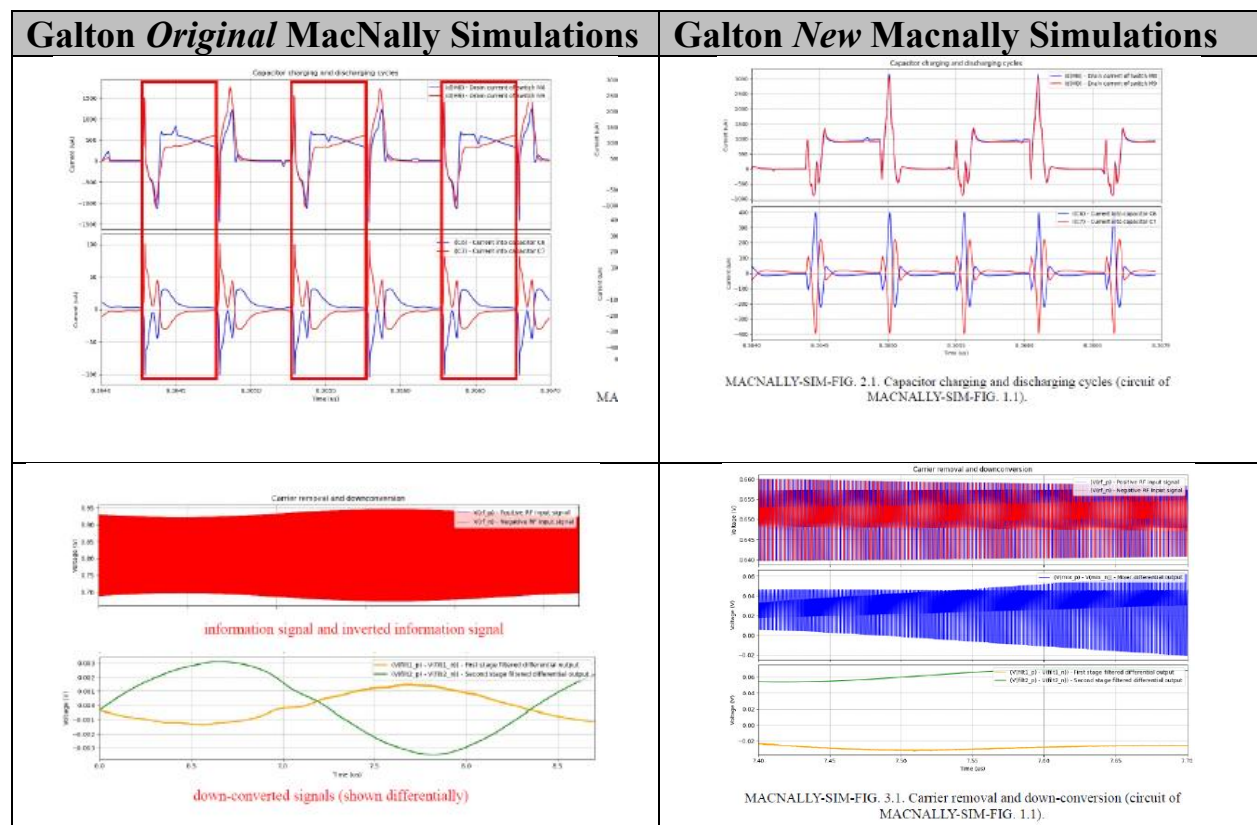
Ex. 2021, ¶¶285-86; POR, 50-52.

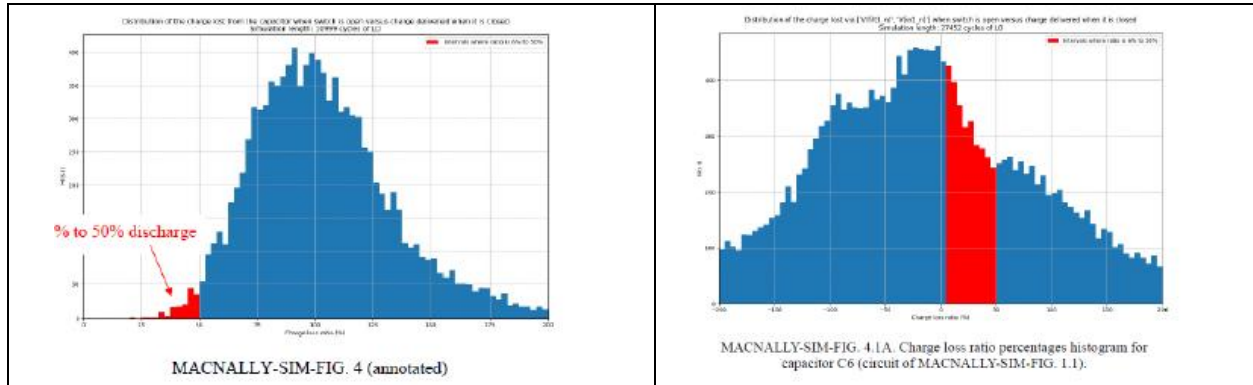
So, in his reply declaration, Dr. Galton did an about-face and changed positions, testifying that switches that are “not entirely off” (i.e., switches that have current passing through them) can nonetheless be considered open/off. Reply, 1-3 (citing Ex. 1060, ¶¶18-32). Dr. Galton’s conflicting testimony is simply not credible.

3. Dr. Galton reworked his Macnally analysis on Reply.

Dr. Galton's new Macnally simulations were admittedly his *first* attempt to simulate a circuit to “match” (Dr. Galton's word) Macnally's circuit. Ex. 1042, ¶145. The new simulations are a complete overhaul from the original simulations and involve changes to circuit topology, loading conditions, transistor dimensions, and signal behavior. POR, 70-75. This represented an entirely new theory on Macnally's operation. *Id.*

As shown below, the resulting waveforms and bar charts from the new simulations look nothing like those in the original simulations.



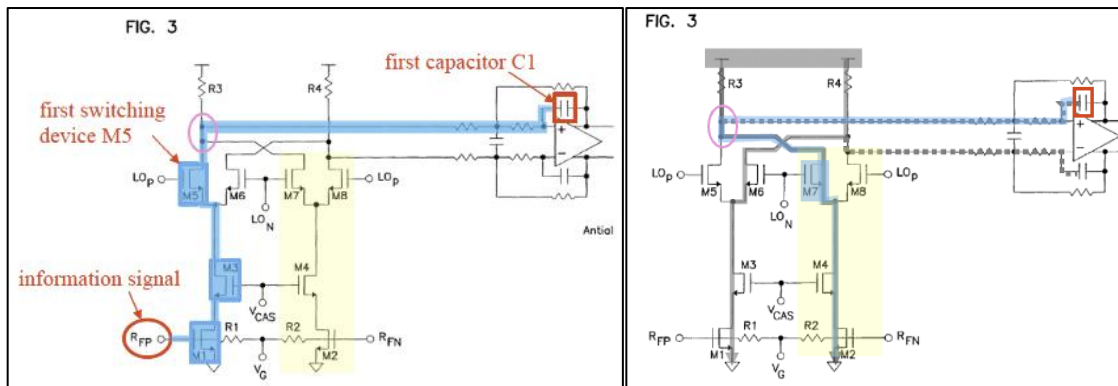


Compare Ex. 1003, MACNALLY-SIM-FIGS. 2, 3, 4 (left) with Ex. 1042, MACNALLY-SIM-FIG. 2.1, 3.1, and 4.1 (right).

And despite his testimony that the simulations “match” Macnally’s circuit, Dr. Galton completely ignores Macnally’s circuit configuration that demonstrates that Macnally’s transistors (alleged switches) cannot open a circuit.

A “switch” in ParkerVision’s patents is “an electronic device for opening and closing a circuit.” *Intel Corp. v. ParkerVision, Inc.*, IPR2021-00346, Paper 33, at 25-26 (P.T.A.B. July 20, 2022), *aff’d*, No. 2022-2173, slip op. at 2 (Fed. Cir. 2024). The transistors in Macnally, however, cannot open and close a circuit because Macnally’s transistors work in pairs—M5 and M7; M6 and M8—and each pair is connected together at a common output. POR, 75-78. The transistors are specifically configured to ensure that there is *always* continuous current flowing through Macnally’s circuit—i.e., ensuring that the circuit is *never* open. See *ParkerVision, Inc. v. Qualcomm Inc.*, 621 F. App’x 1009, 1017 (Fed. Cir. 2015) (finding that, in a circuit configuration having switches operating in pairs (similar

to Macnally), the output of the circuit is continuous i.e., the circuit is never open). So, Dr. Galton was forced to reimagine Macnally's circuit. Dr. Galton carved out half of Macnally's circuit—effectively redesigning the circuit for his analysis.



Pet., 61-62; POR, 77 (annotated).

As shown above (left), Dr. Galton focuses on current passing through the half of Macnally's circuit (blue) having transistor M5 (the alleged switch) and just excises the other half of the circuit (yellow). But, as shown above (right), when transistor M5 is off, transistor M7 is on. POR, 75-78. And, because transistors M5 and M7 share a common output (pink circle), current is continuously supplied through Macnally's circuit—either from M5 or M7. Carving up Macnally's circuit to shoehorn the prior art into the challenged claims is not credible.

D. The Board's failure to decide whether new simulations would be allowed on Reply put PO in an untenable position.

The Board committed yet another error when it held that Dr. Galton's new simulations should not be disregarded because they were provided based on an agreement between the parties. FWD, 24, 35. Not so: Patent Owner *never* agreed to

the admissibility of these new simulations and maintained its objections throughout trial. *See, e.g.*, POR, 37-40; Sur-reply, 2-4; Paper 39 (motion to exclude).

PO was first made aware of the existence of new simulations during Dr. Galton's deposition. Dr. Galton stated that he *already prepared* new simulations because he made a mistake and offered them to PO. Ex. 2036, 44:6-46:3. PO declined to accept these new simulations. *Id.* Nevertheless, PO believed (correctly) that Petitioner would attempt to improperly submit these new simulations in its Reply, with no assurance that PO's expert would have an opportunity to address them or PO would be granted a motion to exclude. Accordingly, PO promptly contacted the Board for guidance. The Board, however, *declined* to rule on whether these new simulations were admissible or whether PO would be granted a sur-reply declaration. Paper 18. Without the benefit of the Board's guidance, PO was left in an untenable position—refuse the simulations and risk that they come in without PO's expert addressing them. Thus, PO reluctantly requested that Petitioner provide only those simulations that Dr. Galton *already prepared* (and referred to at his deposition) so that PO's expert could address them in support of the POR.

Instead of immediately producing only those simulations that Dr. Galton *already* performed before his deposition (as PO requested), Petitioner took ten days and created a 169-page expert declaration with six new sets of simulation

(five for DeMaw and one for Macnally). This is far more than what PO “agreed” to allow Petitioner to submit.

The Board thus materially erred in its determination that the simulations should be permitted based on Patent Owner's purported “agreement.” As set forth above, Dr. Galton's new simulations and accompanying declaration present theories and results that are materially different from those set forth in the Petition and, thus, cannot be used to support Petitioner's challenges.

E. The Board legally erred by ignoring PO's arguments showing unreliability of the simulations.

First, the Board committed legal error by ignoring PO's arguments that Dr. Galton's simulations deviated from the prior art's disclosure. The FWD failed to hold Petitioner to *any* standard—let alone the standard necessary to prove inherency. Instead, the Board stated that PO's arguments “impose requirements ... that are divorced from the requirements of [the challenged claims].” FWD, 40-41, 47-48, 73-74, 78-79. This is not the correct legal standard.

Petitioner cannot establish inherency with expert simulations that deviate from the prior art's disclosure because any deviation shows the claim element is not “necessarily present” in the prior art. *See PAR*, 773 F.3d at 1194-95. Thus, it is completely appropriate for PO to show that Dr. Galton's simulations are not what he says they are by pointing out inconsistencies between the simulations and

DeMaw and Macnally's disclosure. To the extent PO's arguments imposed any requirements, they came from the prior art that Dr. Galton purports to simulate.

Second, the Board also erred by passing off the material differences between Dr. Galton's simulations and the prior art's disclosure as "routine optimization." FWD, 27-29, 40-41, 47-48, 73-74, 78-79. Dr. Galton did not provide any basis to show that the parameters and values he chose were merely optimization of the prior art. Indeed, he could not, because the parameters were not chosen to "optimize" the prior art, but rather to force a result not present in the art to purportedly show the claimed discharge percentages.

F. The Board legally erred by shifting the burden to PO to show "criticality" of the claimed discharge percentages.

The Board improperly shifted the burden to PO to show patentability. Specifically, the Board required PO to show that the claimed "discharging ranges ... can be deemed crucial ranges sufficient to overcome the prima facie case of obviousness." FWD, 26-27. The Board's did so based on *DuPont*'s holding that "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *Id.*, 27 (quoting *E.I. du Pont de Nemours & Co. v. Synvina C.V.*, 904 F.3d 996, 1006 (Fed. Cir. 2018)). But the Board overlooked this "general principle" for finding a "prima facie case of obviousness" is applicable only "when the ranges of

a claimed composition *overlap* the ranges *disclosed* in the prior art.” *DuPont*, 904 F.3d at 1006 (emphasis added). As *DuPont* explained, “[w]here *there is a range disclosed in the prior art*, and the *claimed invention falls within that range*, the burden of production falls upon the patentee to come forward with evidence” showing nonobviousness. *Id.* (emphasis added).

Here, unlike *DuPont*, the prior art in this IPR is *completely silent* on any discharge percentage ranges. Thus, there is no overlapping range between the claim and prior art to justify burden-shifting under *DuPont*. *Id.* at 1007 (distinguishing the *DuPont* burden-shifting framework from cases that do not involve overlapping ranges). The Board legally erred by shifting the burden to PO to rebut a *prima facie* case of obviousness when none exists. *See* FWD, 27-29.

Having improperly shifted the burden to PO, the Board improperly held that PO did not provide evidence that the claimed discharging ranges “demonstrate new and unexpected results, such that they could be deemed critical ranges.” *Id.* The Board abused its discretion by dismissing PO’s arguments showing Dr. Galton’s simulations are untethered to the prior art’s disclosure.

III. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that Director Review be granted, the FWD be vacated, and the proceeding be terminated.

IPR2024-00934 (U.S. Patent No. 7,496,342)
Patent Owner's Request for Director Review

Dated: December 22, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

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